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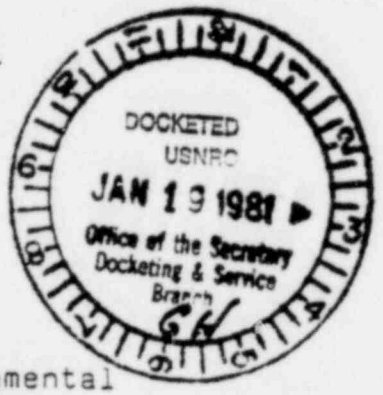


Secretary of the Commission
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Attention: Docket and Service Branch

Subject: Notice of Intent to Prepare an Environmental Impact Statement for Revision of Reactor Siting Criteria (45FR79320 - December 2, 1980)

Dear Sir:

It is imperative that the subject Environmental Impact Statement be prepared with consideration given to alternatives in addition to those put forth in the "Advance Notice of Rulemaking, Revision of Reactor Siting Criteria" (ANR) published in the Federal Register (45FR50350) on July 29, 1980.

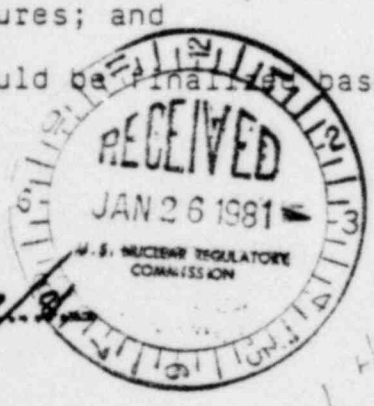
Before a fine caliper can be applied to measuring risks as a function of reactor siting criteria, it is essential that the basic parameters be determined. Some of the parameters that should be determined before the final environmental impact can be assessed, listed in approximate order, include:

(1) Determination of a national safety goal for power generation sources including nuclear reactors, alternative energy sources (coal, oil, solar, geothermal, etc.), and risk assessment methodology;

(2) Degraded Core Cooling probabilities and extent of credible releases must be determined;

(3) Establish methodologies for risk reduction by use of standard engineered safety features; and

(4) Emergency Planning Criteria should be finalized based on items (1) and (2).



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Only after these parameters are determined would it be possible to determine reactor siting criteria that will result in meeting the safety goal. The EIS must therefore develop the bases for the following:

(1) Need to revise existing siting criteria as put forth in the ANR, i.e., the existing criteria are inadequate and the proposed criteria will have an overall positive value impact;

(2) How the stated goal of minimizing risks from power generation can be accomplished without development of a common bases to compare risks from alternative power generation sources and their siting criteria with nuclear power generation and criteria discussed in the ANR; and

(3) How the results of this EIS can be meaningful if the EIS is completed before completion of rulemakings on safety goals and risk assessment methodologies and degraded core. The results of these rulemakings are vital to determining what the criteria should be and their environmental impacts.

Our detailed comments on the subject Notice of Intent are enclosed in Attachment 1.

Thank you for the opportunity to submit these comments.

Very Truly Yours

J. S. Abel
Director of Nuclear
Licensing

ATTACHMENT 1

Commonwealth Edison Company Comments
on Notice of Intent to Prepare an EIS
for Revision of Reactor Siting Criteria (45FR79320)

Comments on Appendix A (Alternatives to be included)

Item II - Purpose and Need for the Action

The "Purpose" section should include the tenet that risks associated with nuclear power production must be compared to those of feasible alternative power generation methods. The EIS must put in perspective risks associated with each of the various power generation alternatives, and must put in perspective other concerns, including environmental impacts and monetary costs. The risks associated with all power generation methods should be measured by the same yardstick--a uniform national safety goal.

The need for revision of the siting criteria should be justified by showing that the "long term goals" are desireable and can be attained by the proposed revisions of reactor siting criteria. Proposed changes in any criterion or the establishment of a new criterion should include a showing that the proposed criteria and practices are more likely to achieve the "long term goals" than present criteria and practices. In particular, recent experience should be cited which demonstrates a need for greater emphasis on "remote siting".

Item III1b Long Term Goals for Revision of Siting Criteria (ANR, Item A)

This section should be included in subsection II which puts forth the purpose and need for the action.

Item III2a Exclusion Distance (ANR, Item B)

The stated purpose of the fixed minimum exclusion distance concept is to limit individual risk. This proposal for a fixed minimum exclusion distance is not workable since no technically valid means exists to set such a distance that would apply to all potential sites with reasonable assurance of a balanced value/impact. Since the Commission has not evolved any values for (1) judging how limited that individual risk should be, (2) how it should be determined, and (3) on what basis it should be judged; such a determination would be arbitrary.

We recommend that an alternative approach be developed that would allow a true limit on individual risk be employed as the basis for establishing individual plant exclusion areas on a uniform basis. This approach would allow the NRC and applicants to evaluate all pertinent factors including terrain, meteorology, plant design, and accident probabilities and consequences in a uniform manner to establish an exclusion distance that would truly limit individual risk for each site.

Item III2b Specification of Population Density Limit (ANR, Item B)

The EIS should examine, in detail, for a wide variety of existing and proposed sites, the value/impact of any proposed limit in terms of the uniform national safety goal mentioned in subsection II. The establishment of the national safety goal and an acceptable risk assessment methodology would avoid arbitrary judgements on acceptable population levels and would provide results directly comparable to the risks from other energy sources. An alternative approach that could be considered is the establishment of acceptable levels of overall risk on a regional rather than a national basis.

With regard to the three tier approach referred to in Item III 2.b.2, III 2.c.2 and III 3.c, consideration should be given in the EIS to the manner in which such an approach would be applied and the effect it might have on the site approval process. For example, might the use of this approach lead to a need to compare sites in a manner similar to that which is used in the environmental portion of the site approval process, to determine the "safest" site? If this site is not also the environmentally preferable site, how would the environmental and safety considerations be compared? Might such comparisons lead to a never-ending balancing of environmental and safety issues that could effectively prevent any site approval? Attachment 2 is a copy of a portion of the comments submitted by AIF on the NRC's Proposed Rule on Alternative Site Reviews (45FR24168 April 9, 1980) that summates our position on how safety and environmental issues should be applied to site selection and alternative site reviews.

Item III2c Specification of Population Distribution Limits (ANR, Item B)

The comments on subsection III2b would generally apply to this section also. In addition, site independent

limits on population density which ignore the effects of local terrain, meteorology, emergency preparedness and communication capabilities, and transportation networks could eliminate sites that are incrementally safer than sites that are under the limits.

It is recommended that the population distribution be dropped from the rulemaking or as an alternative establish an acceptable level of overall risk and a uniform methodology for evaluating plant/site options that would insure that incremental safety effects would be properly evaluated.

Item III3 Restrictions on Proximity to External Hazards (ANR, Item C)

An alternative approach that should be considered is to establish "maximum standoff distances" for selected external hazards beyond which no realistic risk could be postulated.

Each hazard that has not been so analyzed or is not beyond the "maximum standoff distance" would be subject to an integrated risk analysis. This would stop safe sites from being eliminated on the basis of criteria set on the basis of a screen established by a worst case analysis.

The seismic risk should not be postponed from consideration at this time since it is likely to dominate other external events for the vast majority of sites even in areas of low seismicity.

The establishment of a required standoff distance for other nuclear power plants (ANR, Item C, Alternative A) should be eliminated from the list of alternatives because it would effectively eliminate staged development of noncontiguous multiple units on sites that are adequate. This is not the type of standoff distance that would lend itself to a generic rulemaking.

Item III4 Capability to Interdict Contaminated Groundwater (ANR, Item D)

This item should be dropped from the ANR and therefore not considered in the EIS since the most recent studies indicate that it is unlikely, if not nearly impossible,

for Class 9 events to result in containment basemat penetration which have to occur before there would be a threat of substantial groundwater contamination.

This concern could be handled effectively by an overall integrated risk analysis by evaluating liquid pathways on a site/plant basis. In addition, the inclusion of Class 9 events is premature since the Degraded Core Cooling Rulemaking has not been completed.

Item III5 Legislation to Acquire Direct Control (ANR, Item F, Question 1)

An alternative that should be included in this EIS is that any post licensing change that results in an exceedance of a safety criterion should be evaluated on the basis of an overall integrated risk analysis whereby comparison of incremental risk increases from the nuclear plant in question can be made with alternative energy sources and/or national safety goal. Consideration of socioeconomic impacts of loss of the facility and its energy output, including the likelihood of resulting energy shortages, must also be included.

Item III8 Termination of Review Upon Dissapproval by State Agency Whose Approval is Necessary (ANR, Item I)

The "no action" alternative should be included in this section since it may never be clear when a "final decision" has been reached by the state. Decisions can be changed through judicial appeals, state legislatures or by the electorate. The utility is unlikely to pursue an application if there is no chance of obtaining state approval. Termination of review before all avenues of appeal have been exhausted could lead to a significant waste of resources.

Comments on Appendix B

Technical Approach to Detailed Analysis

Issue I Radiological Consequences of Accidents

Current state of the art consequence model programs go far beyond the original CRAC computer code. Detailed plume meander (as a function of time), updated terrain effects modeling, and evacuation interaction modeling of an improved nature are some of the recent changes in this area. Unless the proposed evaluation employs these tools to model each site in great detail and unless a large number of sites representing a large number of regions are modeled, a very misleading representation will result. Also, the model work done should include variations in the ranges of accident releases to fully establish the sensitivity of results to all pertinent factors.

Issue III Definition of Region

The "region" as viewed from the utility position should be the same as the "candidate areas" located within the "region of interest" (ROI) put forth in the proposed rules on Alternative Site Reviews published in the Federal Register on April 9, 1980 (45FR24168). The ROI is the largest area within which a utility can look for a site considering institutional constraints and environmental and monetary costs. The candidate areas are the portions of these ROI's, usually located in proximity to sources of cooling water, in which there are reasonable assurances of finding licenseable sites.

Issue IV Site Availability

The comments for Issue III above also apply to this issue. In addition, this EIS should also consider in detail the competing need for fossil plant sites. Not all available and potentially good sites for nuclear plants can be allocated realistically to that purpose. Most affected utilities employ a mix of fossil and nuclear plants for a variety of reasons. The evaluation of site availability should consider overall, long term generation needs and probable mixes of fossil and nuclear plants. Any other approach will lead to unrealistic conclusions.

Issue VI Severity of External Hazards

The potential level of hazard posed by specific external events or external events in general cannot reasonably or realistically be evaluated as proposed. In the past, individual plants have evaluated specific external hazards in SAR submittals to the NRC. These evaluations and the resulting descriptions of "hazard" are highly site and plant specific. Generalizing from these examples is not technically reasonable and extrapolating from these examples would be worse.

A review of and standardization of available models for characterizing external hazards can and should be done. However, characterization of hazard could only be correctly accomplished by placing a spectrum of different plants at a spectrum of different sites and performing analyses for each combination and each external hazard. This appears to be impractical and, since it would not relate the risk from external hazard to overall risk it also appears to be of limited value.

Issue VII Engineering Alternatives

Based on our above comments, it can be seen that this effort would be even less worthwhile than the approach outlined in Issue VI.

Issue VIII Precluding Siting

This effort should include full socioeconomic evaluations of all aspects of alternative energy sources and full risk assessments for those sources should nuclear power be precluded from one or more regions.

Issue IX Groundwater Interdiction

This effort should be deleted in accordance with earlier comments.

Issue X Post-licensing Control

This analysis should also include a detailed value/impact assessment on the alternatives contemplated. Socioeconomic and risk evaluations should demonstrate that the alternatives contemplated for nuclear power in

this regard are consistent with the treatment afforded alternative energy sources because if a nuclear plant would be shut down then the power would have to be replaced by an alternative energy source with its attendant environmental and socioeconomic cost and risks.

Issue XIII Unusual or Unproven Engineering Design

We cannot comment on this issue without a clear definition of unusual or unproven designs. The scoping document should give specific definitions of these terms, without ambiguities, so that their effects can be evaluated in the EIS.

Issue XIV Termination of Review

The no action scenario should be considered for this issue. The comments on Item III8 of Appendix A also apply to this issue.

Comments on Other Issues which should be Considered in this Rulemaking

Issue A — As discussed in several of our earlier comments, we feel that the most appropriate, technically correct and productive method of increasing or assuring public safety in this area is to avoid de-coupling siting from other closely related and interdependent aspects of safety. Plant design, emergency preparedness and siting factors such as demography, meteorology, terrain, communications, and transportation networks are all closely interwoven in any realistic evaluation of safety. Isolation of any one area and the development of standards for such an isolated area carries the risk of actually decreasing safety in specific cases.

We, therefore, feel that a more appropriate approach to siting is to consider it as one part of an integrated effort to develop a uniform reactor safety goal (or series of regional goals) which considers all aspects of safety in their proper perspective and which establishes a methodology for evaluation of individual plants against such a goal(s). We feel that the EIS should evaluate this alternative against the concepts presented in the ANR and should do so in detail.

Issue B — In the event the EIS were to support the ANR concepts over those advocated above, we feel that the EIS should carefully evaluate the value/impact of an addition to the ANR which would permit an applicant to select a site not in compliance with approved criteria in the final regulation if the applicant can show that individual and overall risk is no greater than for similar plants of a similar generation and/or that the particular criteria as written (such as standoff distances) which he does not meet, is not applicable in a safety sense for good technical reason and/or that no better site for a nuclear plant is available to the applicant in his region.

Comments by the AIF Subcommittee on* Emergency Planning & Siting Policy

The foreword to the proposed rule to amend 10 CFR Part 51 relating to alternative site reviews requests public comment on "whether safety issues, including emergency response capability, should be admitted in the review and decision-making on alternative sites; and if so, how."

The present site selection process for nuclear power plants employed by many, if not most, utilities recognizes that as a matter of prudence in assuring site licensability it is necessary to consider engineering and safety, together with environmental impacts, in site selection. This occurs because, at some point in the NRC's review process, it must be demonstrated that the preferred site satisfies the NRC's site suitability criteria (e.g. the criteria contained in NRC Regulatory Guide 4.7). Since an unbiased, objective site selection process does not focus on the preferred, or proposed, site beforehand, all candidate sites should therefore satisfy these criteria. Likewise, because of site specific differences (e.g. hydrological, geotechnical, meteorological, etc.) the engineering requirements at one candidate site may be significantly greater than at another, thereby making that site significantly less economical. This economic consideration is an important factor in site selection.

The NRC has, in the past, performed the NEPA-required alternative sites review without considering the safety aspects of the proposed plant at the various candidate sites. Safety related matters have been considered by the NRC only for the proposed site during the safety review required by the Atomic Energy Act. We strongly object to the inclusion of safety matters in the comparison and ranking of alternative sites in the NEPA review process. If these issues were allowed, it would require:

a. That alternative sites, which meet all applicable safety criteria, be ranked in terms of relative safety. This cannot be done because there is not a common basis for comparing risks for all external events nor is there a common basis for comparing risks for internal events. Reference to these deficiencies are found in NRC's "Siting Policy Task Force Report" - NUREG 0625 and the Advisory Committee on Reactor Safeguards February 14, 1980 letter to the Commission. To

* These comments were previously submitted to NRC on June 11, 1980, as part of an overall AIF comment package on proposed amendments to 10 CFR 51.

attempt to rank sites on safety would require subjective value judgements as: Is a site 15 miles from a capable fault "safer" than a site 6 miles from a liquified natural gas plant?, What if the site judged "safer" with regard to these two criteria is in a more densely populated area?, etc.;

b. That environmental effects be balanced with safety considerations if the environmentally preferred site is not the site judged to be the "safest". On what basis would a decision be made as to whether safety considerations or environmental considerations are of greater concern?;

c. That both safety and environmental considerations be compared to such factors as site development costs (including associated transmission lines and rights-of-way; engineered safeguards; and environmental impact mitigation), system reliability and institutional considerations such as intercompany load sharing agreements, etc.; and

d. That mitigation alternatives be compared. For example, questions such as (1) should the applicant use engineered safety features to make a site licensable or must it be made "safer"?; and/or (2) should the applicant extend the region of interest beyond what is required for environmental diversity to find a "safer" site that may be inferior on environmental issues?; etc. would have to be addressed.

The above objections to including safety issues in the NEPA alternative sites review are particularly applicable to the issue of emergency response capabability. The state and local authorities, not the utility, have the responsibility to develop off-site response plans and the capability to implement them. While it is in the best interests of utilities to scrutinize the emergency planning zone in the vicinity of each alternative site to assure that there are no major site characteristics that would preclude development of a plan for prompt emergency response capabilities, it is not practicable or necessary to consider detailed emergency response capability for each alternative site for the following reasons:

a. The long time span (10-15 years) between alternate sites review and plant operation allows for significant changes to be made offsite which could impact conclusions drawn from previous studies.

b. There is no definitive basis on which to compare sites with respect to future emergency response capability.

c. Emergency response capability is dependent on plant design details which may not be established at the alternate sites review stage.

d. Emergency response capability is fully examined for the primary site during the successive stages of licensing prior to plant operation.

For the above reasons, it is our judgment that, expansion of the NEPA alternative sites review to include safety issues is not a feasible method of incorporating the facet of safety into the plant siting review process. To do so would unnecessarily complicate and lengthen the NEPA review process. The ACRS itself has pointed to the combining of NEPA and Safety Reviews in the ASLB hearing process as a possible contribution to delaying licensing actions and suggests that these issues be kept separate (NUREG 0642 Section 7.2.3). Safety related matters are, of course, fully examined for the primary site during the successive stages of licensing, thus assuring the health and safety of the public.

Therefore, in summary, although safety issues are considered by licensees as a matter of prudence in the decision-making on alternative sites, licensees should not be required by regulation to submit information on safety issues as part of the NRC NEPA alternative site review.